

Taylor's scientific management theory



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Introduction

The purpose of this essay is to identify the principles and various criticisms of Taylor's scientific management and to discuss whether Frederick Taylor's principles and ideas can be used successfully in today's contemporary organizations.

Fredrick Winslow Taylor (1856 – 1915), was a leading pioneer in the studies of management, and was often known as the father of scientific management. Taylor (1915) revolutionized management in the twentieth century by focusing on mass production of inexpensive products, resulting in economy stability and a standardization of major industrial processes. The publication of his book titled '*Principles of Scientific Management*' was influential in its contribution to management studies around the world (Bedelan and Wren, 2001).

Principles of Scientific Management

Taylor (1911) reported that managers, in his time, relied on the personal initiative of workers for achieving productivity, although high levels of productivity were rarely attained. In contending that workers performed at levels beneath their true capacities, he came up with four principles of scientific management to be followed by managers:

The First Principle focused on how the workers would perform their daily tasks. To find out the most efficient method of performing specific tasks, Taylor studied them in great detail and considered the ways different workers went about performing their everyday jobs. Once Taylor understood the existing way of performing a task, he then experimented to increase

specialization (Taylor 1911). The reason for the success of this principle is that it made jobs simple for workers and reduce unnecessary movements. Taylor also wanted to find ways to improve each worker's ability to perform a particular task.

The Second Principle was to arrange the new techniques of performing tasks into written rules and standard operating procedures. Once the best method of performance task was determined, it would be communicated to all workers.

The Third Principle required the selection of workers who possessed skills and abilities to match the needs of the tasks, and to train them to perform the task against established procedures. To increase specialization, Taylor believed workers had to understand the task that were required and be trained to perform them at the required level. Workers who could not be trained to do this level were to be transferred to a job where they were able to reach the minimum required level of proficiency.

The Fourth Principle was to set a fair level of performance for a task, and then develop a pay system that provides a reward for performance above the acceptable level. To encourage workers to perform at a high level of efficiency, and to provide them with an incentive to reveal the most efficient techniques for performing a task, Taylor advocated that workers should be paid a bonus and receive some percentage of the performance gains achieved through the more efficient work process.

According to Taylor, as cited in Butler (1991), greater results achieved through scientific management were attained, not through a marked

superiority in the mechanism of one type of management over the mechanism of another, but rather by the substitution of one philosophy for another philosophy in industrial management. It is instructive to review Taylor's philosophy of scientific management with its emphasis upon the human element, not generally associated with Taylor. This philosophy is perhaps more important and appropriate for today than individual principles of scientific management. Human resource developments should be a matter of national concerns at all levels. As technology changes, so do skill sets and other worker requirements (Butler, 1991).

Criticisms of Scientific Management

Over the years there have been some key criticisms against Taylor's Scientific Management. One of these critics has charged Taylor's system as having "viewed man as a machine -a cog in a wheel- and programmed every important motion a workman had to execute to complete an assigned task" (Halpern, Osofsky, & Peskin, 1989). Those critics believed that that would leave workers with no discretion at all and it is tedious for all, but the most apathetic workers. Another critic added that scientific management mandates an extremely high division of labor which requires minimum skills. This left workers with no incentive to grow and develop on the job. Also, Taylor's systems were criticized for not examining the sentiments of workers nor were they briefed on the purpose for Taylor's time study methods. Taylor's system also failed to identify the social and psychological needs of the worker, and the complaints of unsatisfactory working conditions and humiliating treatment (Halpern, Osofsky, & Peskin, 1989). Employees in contemporary organizations were more highly educated and would have a

better knowledge of their job scope therefore they are more actively involved in decision making. Taylor's principles seem to assume that the employees of the past era would only perform simple work tasks and do not need much knowledge to complete their work.

Another criticism about Taylor's system was that its reward structure was bound by how an individual performed. However, it stands to reason that modifying the original reward structure to extend to a team or workgroup, the result would be applicable to today's organization (Halpern, Osofsky, & Peskin, 1989).

Can scientific management be used successfully in contemporary organizations?

In today's organizations, many companies still use Frederick Taylor's basic theories of scientific management in organizing and designing their jobs despite the fact that many managers and production engineers may not necessarily subscribe to the hypothesis behind Taylor's theory (Pruijt, 2000). Many big companies have taken up Taylor's ideas and applied them very effectively, even transforming the process. (Peaucelle, 2000).

An example of a reputable company using Taylorism is General Motors (GM). GM has publicly acknowledged the importance of employee performance and team performance (Butler, 1991). In one of its programmes, GM ranked employees against each other, essentially grading the employees' individual performance. Based on the performance, bosses had to enforce pay differences between the tiers. On top of that, GM also set up a "recognition award" fund to be doled out in lump sums to high performers, regardless of the "competitiveness" of their salaries. This encouraged better cooperation

among co-workers, enabling better efficiency within the company. This is a successful implementation of Taylor's Fourth Principle which rewards the individual for their specific task performance,

There are a number of points that make the theories of scientific management attractive to today's managers. One of the core attractions is the promise that the best possible method, "the one best way" will be used. However, Taylor's strong belief that "a one best way" to work might be a matter of idealistic debate.

When we compare today's organizations, another core attraction of Taylorism is: it promises to be a means against what Taylor called "systematic soldiering". This concern is as relevant to today's managing organization as ever. Pruijt (2000) supported that statement by analyzing the productivity gap in a European and a Japanese organization; at Daimler in Germany, the current strategy was based more on responsible autonomy, whilst in Japanese plants, standard worksheets are used to specify the order of operations and the time allowed for them. Therefore, with respect to Taylorism, when granted autonomy, workers in mass production do not put in a maximum effort. It would seem then that for certain organizations, the Second and Third Principles are effective.

Despite the advantages of Taylorism in today's organization, there are still some drawbacks. Pruijt (2000) mentioned that one of the drawbacks identified is that Taylorism is expensive because it entails creating jobs for non-value adding supervisors and other indirect workers. On top of that, Pruijt (2000) also noted that Taylorism is not favorable to flexibility, although

it boosts numerical flexibility by making it easier to quickly put together new workers in a production process, and it allows workers to be laid off without losing knowledge from the organization.

In today's corporate management, " Post-Taylorism", as stated by Peaucelle (2000) is adopted but it does not abandon Taylorism's objectives, rather, there is the addition of new objectives which includes productivity (efficiency), flexibility, deadlines (timeliness) and quality variety (diversity). Although these new objectives are sometimes pursued through entirely new activities when executed, the Taylorism's traditional methods may also sometimes be employed.

However, Peaucelle (2000) argues that new objectives are unachievable without adversely affecting efficiency in a modern company using Taylorism. Peaucelle (2000) further explained that increasing supply would be the only way to shorten delivery periods, which is costly due to limited product range and the whole operation becomes more unaffordable as the product range is diversified. In addition, diversity would also appear to be very expensive as it diminishes the size of the manufactured series. Furthermore, quality would be achievable only if inspection points are increased, and with the help of qualified, and thus more expensive workforce, hence adding more cost to production. Lastly, flexibility would also emerge as ambiguous with regards to heavy and rigid investments in heavy industrial equipment purchased at lower prices.

For instance, in Japan, since it was necessary to have a high school certificate in order to work on the automobile production line, the high level

of education corresponded to added competence, and was certainly paid for. As discussed by Peaucelle (2000), this is consistent with the analysis of efficiency-wage reactivity. Therefore, in comparing to the traditional Taylorism, workers are paid above the minimum wage whereas the post-Taylorism company pays its workers a higher wage for increased competence since it is a way of attaining its objectives.

Conclusion

The findings suggest that Frederick Taylor's theory still exists in today's organizations. His principles of management can still be used successfully in today's organizations, with adjustments to cater for the modern workplace and its demands.